J. BRAKELEY.

Bark Separating Device.

No. 28,554. Patented June 5, 1860.

Fig. 3.

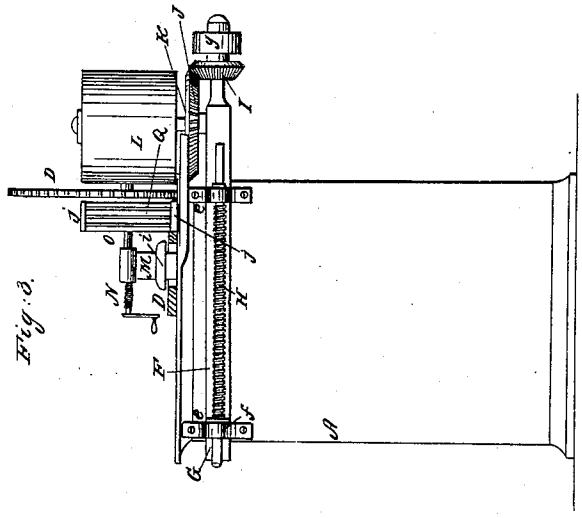


Fig. 2.

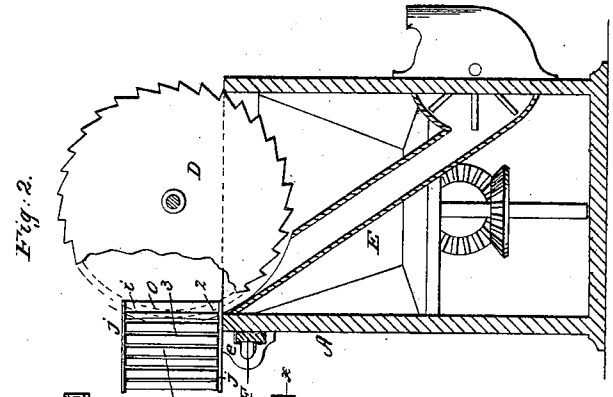
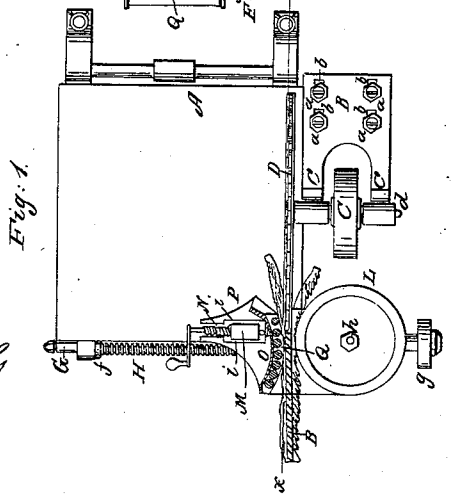


Fig. 1.



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UNITED STATES PATENT OFFICE.

JOSEPH BRAKELEY, OF NEW YORK, N. Y.

MACHINE FOR SEPARATING THE QUALITIES OF BARK.

Specification of Letters Patent No. 28,554, dated June 5, 1860.

To all whom it may concern:

Be it known that I, JOSEPH BRAKELEY, of the city, county, and State of New York, have invented a new and useful Device for Separating Bark; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a plan or top view of my invention; Fig. 2 a side sectional view of the same taken in the line *x x* Fig. 1. Fig. 3 a front view of the same.

Similar letters of reference indicate corresponding parts in the several figures.

This invention has for its object the separating of the good from the worthless portions of bark preparatory to the grinding of the former for the use of tanners. It is designed to have the invention applied to a bark mill in such a way that the separated superior portions of the bark may pass directly into the mill and be ground, the worthless portion dropping from the machine, while the portions of medium quality are reduced to dust by the action of the saw or cutter, separated from the other portions and discharged from the machine at a separate point.

The invention consists in the employment or use of a cutter, pressure roller and an adjustable bearing, arranged substantially as hereinafter shown and described to effect the desired end.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A represents a bark mill which may be of any of the known forms, and B, is a plate which is attached to the upper part of the mill A, by screw *a*, passing through oblong slots *b*, in the plate to admit of the latter being adjusted when necessary. The front part of the plate B, is provided with two arms *c*, *c*, the outer ends of which form bearings for a saw shaft or arbor *d*, on which a pulley C, is placed, the saw D, being at the inner end of the arbor and having its lower part passing into a narrow case E, adjoining the mill, which case communicates with the suction pipe of a fan as shown in red in Fig. 2.

F, is a slide which is placed in suitable bearings *e*, *e*, on the front side of the mill case. To this slide F, a rod G, is attached parallelly, said rod having a spiral spring H, upon it between one of the bearings *e*, and a boss *f*, which is secured to the rod, see Fig. 3. On one end of the slide F, there is placed a bevel wheel I, and a driving pulley *g*, connected therewith. The wheel I, gears into a bevel wheel J, which is on the lower part of a vertical hollow shaft K, having an elastic roller L, upon it, constructed wholly or in part of india-rubber. The hollow shaft K, is fitted on a stationary shaft *h*, attached relatively to the slide F.

On the upper part of the mill A, there is placed a small upright M, through the upper part of which a screw N, passes horizontally and bears against a vertical plate O, the lower end of which is attached to a horizontal plate or base P, which is slotted longitudinally and is fitted underneath flanches *i*, on the lower part of the upright M, the latter serving as a guide for the plate P, see Figs. 1 and 3.

The face side of the plate O, is provided with a flanch J, at its upper and lower end, and these flanches serve as bearings for the journals of a series of vertical rollers Q. The plate O, is somewhat curved in its horizontal section and the rollers Q, have a corresponding position, that is to say, they follow or coincide with the curvature of the plate O, the rollers gradually flaring outward from the saw D, as they recede from it, as shown clearly in Fig. 1.

The elastic roller L, it will be seen by referring to Fig. 1, is at one side of the saw and the plate O, and its rollers Q, at the opposite side.

The operation is follows: The bark R, shown in red, is placed between the rollers L, and Q, by hand and the plate O, and rollers Q, are adjusted by actuating the screw N, so that the bark will be properly presented to the saw. The elastic roller L, is rotated by a belt passing around the pulley *g*, and the saw D, is rotated by a belt passing around the pulley C. The epidermis or outer side of the bark is in contact with the roller L, the wood side of the bark being in contact with the rollers Q, on the plate O. The outer portion or epidermis of the bark is worthless as it contains no tannin, and as the bark is operated upon it drops from the saw to the ground and is removed from time to time as occasion requires. The position adjoining the epidermis is of some value and this portion is removed by the saw D and passes in the form of dust into

the case E, and is drawn through the suction pipe into the fan box and expelled therefrom by the fan into a suitable receptacle.

The inner portion, consisting chiefly of the cortex or true bark, drops as it is cut into the mill A, and is ground in the ordinary way. The central portion of medium quality cut into dust by the saw of course requires no grinding.

The roller L, it will be seen feeds the bark to the saw D, and the latter is made elastic in order that it may have a sufficient bearing or hold on the bark to feed the latter along to the saw without breaking it and it is attached to a yielding slide F, that it may have the necessary pressure on the bark. The innermost roller Q, is made concave so that the pressure of the rollers on the bark will be directly in front of the saw at three points 1, 2, 3, see Fig. 2, the points 1, 2, being at the upper and lower ends of the concave roller and the point 3, at the center of the roller adjoining the concave one. This arrangement is necessary, where a circular saw is used for a cutter as the pressure of the rollers is required in front of the tool in order to prevent the fragile substance (bark) from breaking or fracturing under the action and in front of the cutter but there should be no pressure within the space occupied by the saw. If a reciprocating saw were used a simple vertical bearing in front of the saw would effect the result.

By having the plate O, and rollers Q, and adjustable bearing plate O, with or adjusted to suit bark of varying thicknesses and by having the plate B, adjustable the gradually diminishing diameter of the saw by wear may be compensated for. I do not however confine myself to a circular saw, for a reciprocating one may be used, although a circular one would be preferable. A rigid feed-roller may also be used in lieu of an elastic one, but the latter would insure a better pressure.

I do not claim the employment or use of an elastic feed roller, nor, any of the parts separately considered; but

I do claim as new and desire to secure by Letters Patent—

The combination of a saw or cutter D, rotary or reciprocating, a pressure roller L, and adjustable bearing plate O, with or without rollers Q, all being arranged and applied to a bark mill, substantially as and for the purpose set forth.

JOSEPH BRAKELEY.

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